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<213> Hordeum vulgare

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RECEIVED  
APR 02 2002  
TECH CENTER 1600/2900

per  
#13

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tgcattgtca tggttggcgg tcaatttact gcatacctaa acgggttgca ttcaaagggtt 2580
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<210> 10
<211> 1086
<212> PRT
<213> Zea mays

```

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Leu Val Val Ile Arg Arg Asp Gly Asp Pro Gly Pro Lys Pro Pro Arg
      20          25          30

Glu Gln Asn Gly Gln Val Cys Gln Ile Cys Gly Asp Asp Val Gly Leu
      35          40          45

Ala Pro Gly Gly Asp Pro Phe Val Ala Cys Asn Glu Cys Ala Phe Pro
      50          55          60

Val Cys Arg Asp Cys Tyr Glu Tyr Glu Arg Arg Glu Gly Thr Gln Asn
      65          70          75          80

Cys Pro Gln Cys Lys Thr Arg Tyr Lys Arg Leu Lys Gly Cys Gln Arg
      85          90          95

Val Thr Gly Asp Glu Glu Glu Asp Gly Val Asp Asp Leu Asp Asn Glu
      100          105          110

Phe Asn Trp Asp Gly His Asp Ser Gln Ser Val Ala Glu Ser Met Leu
      115          120          125

Tyr Gly His Met Ser Tyr Gly Arg Gly Gly Asp Pro Asn Gly Ala Pro
      130          135          140

Gln Ala Phe Gln Leu Asn Pro Asn Val Pro Leu Leu Thr Asn Gly Gln
      145          150          155          160

```



Met	Val	Asp	Asp	Ile	Pro	Pro	Glu	Gln	His	Ala	Leu	Val	Pro	Ser	Phe	165	170	175
Met	Gly	Gly	Gly	Gly	Lys	Arg	Ile	His	Pro	Leu	Pro	Tyr	Ala	Asp	Pro	180	185	190
Ser	Leu	Pro	Val	Gln	Pro	Arg	Ser	Met	Asp	Pro	Ser	Lys	Asp	Leu	Ala	195	200	205
Ala	Tyr	Gly	Tyr	Gly	Ser	Val	Ala	Trp	Lys	Glu	Arg	Met	Glu	Asn	Trp	210	215	220
Lys	Gln	Arg	Gln	Glu	Arg	Met	His	Gln	Thr	Gly	Asn	Asp	Gly	Gly	Gly	225	230	235
Asp	Asp	Gly	Asp	Asp	Ala	Asp	Leu	Pro	Leu	Met	Asp	Glu	Ala	Arg	Gln	245	250	255
Gln	Leu	Ser	Arg	Lys	Ile	Pro	Leu	Pro	Ser	Ser	Gln	Ile	Asn	Pro	Tyr	260	265	270
Arg	Met	Ile	Ile	Ile	Ile	Arg	Leu	Val	Val	Leu	Gly	Phe	Phe	Phe	His	275	280	285
Tyr	Arg	Val	Met	His	Pro	Val	Asn	Asp	Ala	Phe	Ala	Leu	Trp	Leu	Ile	290	295	300
Ser	Val	Ile	Cys	Glu	Ile	Trp	Phe	Ala	Met	Ser	Trp	Ile	Leu	Asp	Gln	305	310	315
Phe	Pro	Lys	Trp	Phe	Pro	Ile	Glu	Arg	Glu	Thr	Tyr	Leu	Asp	Arg	Leu	325	330	335
Ser	Leu	Arg	Phe	Asp	Lys	Glu	Gly	Gln	Pro	Ser	Gln	Leu	Ala	Pro	Ile	340	345	350
Asp	Phe	Phe	Val	Ser	Thr	Val	Asp	Pro	Leu	Lys	Glu	Pro	Pro	Leu	Val	355	360	365
Thr	Thr	Asn	Thr	Val	Leu	Ser	Ile	Leu	Ser	Val	Asp	Tyr	Pro	Val	Asp	370	375	380
Lys	Val	Ser	Cys	Tyr	Val	Ser	Asp	Asp	Gly	Ala	Ala	Met	Leu	Thr	Phe	385	390	395
Glu	Ala	Leu	Ser	Glu	Thr	Ser	Glu	Phe	Ala	Lys	Lys	Trp	Val	Pro	Phe	405	410	415
Cys	Lys	Arg	Tyr	Asn	Ile	Glu	Pro	Arg	Ala	Pro	Glu	Trp	Tyr	Phe	Gln	420	425	430
Gln	Lys	Ile	Asp	Tyr	Leu	Lys	Asp	Lys	Val	Ala	Ala	Asn	Phe	Val	Arg	435	440	445
Glu	Arg	Arg	Ala	Met	Lys	Arg	Glu	Tyr	Glu	Glu	Phe	Lys	Val	Arg	Ile	450	455	460
Asn	Ala	Leu	Val	Ala	Lys	Ala	Gln	Lys	Val	Pro	Glu	Glu	Gly	Trp	Thr	465	470	475

Met	Gln	Asp	Gly	Thr	Pro	Trp	Pro	Gly	Asn	Asn	Val	Arg	Asp	His	Pro	485	490	495
Gly	Met	Ile	Gln	Val	Phe	Leu	Gly	Gln	Ser	Gly	Gly	Leu	Asp	Cys	Glu	500	505	510
Gly	Asn	Glu	Leu	Pro	Arg	Leu	Val	Tyr	Val	Ser	Arg	Glu	Lys	Arg	Pro	515	520	525
Gly	Tyr	Asn	His	His	Lys	Lys	Ala	Gly	Ala	Met	Asn	Ala	Leu	Val	Arg	530	535	540
Val	Ser	Ala	Val	Leu	Thr	Asn	Ala	Pro	Tyr	Leu	Leu	Asn	Leu	Asp	Cys	545	550	555
Asp	His	Tyr	Ile	Asn	Asn	Ser	Lys	Ala	Ile	Lys	Glu	Ala	Met	Cys	Phe	565	570	575
Met	Met	Asp	Pro	Leu	Leu	Gly	Lys	Lys	Val	Cys	Tyr	Val	Gln	Phe	Pro	580	585	590
Gln	Arg	Phe	Asp	Gly	Ile	Asp	Arg	His	Asp	Arg	Tyr	Ala	Asn	Arg	Asn	595	600	605
Val	Val	Phe	Phe	Asp	Ile	Asn	Met	Lys	Gly	Leu	Asp	Gly	Ile	Gln	Gly	610	615	620
Pro	Ile	Tyr	Val	Gly	Thr	Gly	Cys	Val	Phe	Arg	Arg	Gln	Ala	Leu	Tyr	625	630	635
Gly	Tyr	Asp	Ala	Pro	Lys	Thr	Lys	Lys	Pro	Pro	Ser	Arg	Thr	Cys	Asn	645	650	655
Cys	Trp	Pro	Lys	Trp	Cys	Phe	Cys	Cys	Cys	Cys	Phe	Gly	Asn	Arg	Lys	660	665	670
Gln	Lys	Lys	Thr	Thr	Lys	Pro	Lys	Thr	Glu	Lys	Lys	Lys	Leu	Leu	Phe	675	680	685
Phe	Lys	Lys	Glu	Glu	Asn	Gln	Ser	Pro	Ala	Tyr	Ala	Leu	Gly	Glu	Ile	690	695	700
Asp	Glu	Ala	Ala	Pro	Gly	Ala	Glu	Asn	Glu	Lys	Ala	Gly	Ile	Val	Asn	705	710	715
Gln	Gln	Lys	Leu	Glu	Lys	Lys	Phe	Gly	Gln	Ser	Ser	Val	Phe	Val	Thr	725	730	735
Ser	Thr	Leu	Leu	Glu	Asn	Gly	Gly	Thr	Leu	Lys	Ser	Ala	Ser	Pro	Ala	740	745	750
Ser	Leu	Leu	Lys	Glu	Ala	Ile	His	Val	Ile	Ser	Cys	Gly	Tyr	Glu	Asp	755	760	765
Lys	Thr	Asp	Trp	Gly	Lys	Glu	Ile	Gly	Trp	Ile	Tyr	Gly	Ser	Val	Thr	770	775	780
Glu	Asp	Ile	Leu	Thr	Gly	Phe	Lys	Met	His	Cys	His	Gly	Trp	Arg	Ser	785	790	795
																800		

Ile	Tyr	Cys	Ile	Pro	Lys	Arg	Val	Ala	Phe	Lys	Gly	Ser	Ala	Pro	Leu	
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Asn	Leu	Ser	Asp	Arg	Leu	His	Gln	Val	Leu	Arg	Trp	Ala	Leu	Gly	Ser	
			820					825					830			
Ile	Glu	Ile	Phe	Phe	Ser	Asn	His	Cys	Pro	Leu	Trp	Tyr	Gly	Tyr	Gly	
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	850					855					860					
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865					870					875					880	
Ile	Cys	Leu	Leu	Thr	Gly	Lys	Phe	Ile	Thr	Pro	Glu	Leu	Asn	Asn	Val	
				885					890					895		
Ala	Ser	Leu	Trp	Phe	Met	Ser	Leu	Phe	Ile	Cys	Ile	Phe	Ala	Thr	Ser	
			900					905					910			
Ile	Leu	Glu	Met	Arg	Trp	Ser	Gly	Val	Gly	Ile	Asp	Asp	Trp	Trp	Arg	
		915					920					925				
Asn	Glu	Gln	Phe	Trp	Val	Ile	Gly	Gly	Val	Ser	Ser	His	Leu	Phe	Ala	
	930					935					940					
Val	Phe	Gln	Gly	Leu	Leu	Lys	Val	Ile	Ala	Gly	Val	Asp	Thr	Ser	Phe	
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Thr	Val	Thr	Ser	Lys	Gly	Gly	Asp	Asp	Glu	Glu	Phe	Ser	Glu	Leu	Tyr	
				965					970					975		
Thr	Phe	Lys	Trp	Thr	Thr	Leu	Leu	Ile	Pro	Pro	Thr	Thr	Leu	Leu	Leu	
			980					985					990			
Leu	Asn	Phe	Ile	Gly	Val	Val	Ala	Gly	Val	Ser	Asn	Ala	Ile	Asn	Asn	
		995					1000					1005				
Gly	Tyr	Glu	Ser	Trp	Gly	Pro	Leu	Phe	Gly	Lys	Leu	Phe	Phe	Ala	Phe	
	1010					1015					1020					
Trp	Val	Ile	Val	His	Leu	Tyr	Pro	Phe	Leu	Lys	Gly	Leu	Val	Gly	Arg	
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Gln	Asn	Arg	Thr	Pro	Thr	Ile	Val	Ile	Val	Trp	Ser	Ile	Leu	Leu	Ala	
				1045					1050					1055		
Ser	Ile	Phe	Ser	Leu	Leu	Trp	Val	Arg	Ile	Asp	Pro	Phe	Leu	Ala	Lys	
			1060					1065					1070			
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<210>	11															
<211>	1138															
<212>	DNA															
<213>	Oryza sativa															

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<210> 12
<211> 341
<212> PRT
<213> Oryza sativa

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```

<400> 12
Arg Cys Ser Arg Arg Trp Thr Cys Ser Ser Pro Pro Pro Thr Pro Thr
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Arg Ser Arg Arg Ser Pro Arg Arg Thr Pro Cys Cys Pro Tyr Ile Leu
                20                25                30

Ala Ala Gly Tyr Pro Ala Gly Lys Val Thr Cys Tyr Ile Ser Asp Asp
 35                40                45

Ala Gly Ala Glu Val Thr Arg Asn Ala Val Val Glu Ala Ala Arg Phe
 50                55                60

Ala Ala Leu Trp Val Ser Phe Cys Arg Lys His Gly Val Glu Pro Arg
 65                70                75                80

Asn Leu Glu Ala Tyr Phe Asn Ala Gly Glu Gly Gly Gly Gly Lys Ala
                85                90                95

Lys Val Val Ala Arg Gly Ser Tyr Arg Gly Met Ala Trp Pro Glu Leu
                100                105                110

Val Arg Asp Arg Arg Arg Val Arg Arg Glu Tyr Glu Glu Met Arg Leu
                115                120                125

Arg Ile Asp Ala Leu Gln Ala Ala Asp Ala Arg Arg Arg Arg Arg Gly
 130                135                140

Ala Ala Asp Asp His Ala Gly Val Val Gln Val Leu Ile Asp Phe Ala
 145                150                155                160

Gly Ser Val Pro Gln Leu Gly Val Ala Asn Gly Ser Lys Leu Ile Asp
                165                170                175

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Val Ala Ser Val Asp Val Cys Leu Pro Ala Leu Val Tyr Val Cys Arg  
180 185 190

Glu Lys Arg Arg Gly His Ala His His Arg Lys Ala Gly Ala Met Asn  
195 200 205

Ala Pro Phe Ile Leu Asp Leu Asp Cys Asp Tyr Tyr Val Asn Asn Ser  
210 215 220

Gln Ala Leu Arg Ala Gly Ile Cys Phe Met Ile Glu Arg Gly Gly Gly  
225 230 235 240

Gly Ala Ala Glu Asp Ala Gly Ala Val Ala Phe Val Gln Phe Pro Gln  
245 250 255

Arg Val Asp Gly Val Asp Pro Gly Asp Arg Tyr Ala Asn His Asn Arg  
260 265 270

Val Leu Phe Asp Cys Thr Glu Leu Gly Leu Asp Gly Leu Gln Gly Pro  
275 280 285

Ile Tyr Val Gly Thr Gly Cys Leu Phe Arg Arg Val Ala Leu Tyr Ser  
290 295 300

Val Asp Leu Pro Arg Trp Arg Pro Arg Arg Ser Leu Gly Cys Arg Leu  
305 310 315 320

Leu Gly Glu Asp Glu Arg Leu Trp Ser Arg Met Lys Gln Met Val Ile  
325 330 335

Leu Ser Gly Pro Arg  
340

<210> 13  
<211> 3517  
<212> DNA  
<213> Glycine max

<400> 13

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gcatgaattc	aatattgatg	agcaaaagaa	caagcatggc	caggttgcag	aagccatgct	540
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```

<210> 14
<211> 1039
<212> PRT
<213> Glycine max

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<220>
<221> UNSURE
<222> (201)
<223> xaa = any amino acid

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Leu Val Val Ile His Gly His Glu Glu Pro Lys Ala Leu Lys Asn Leu
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Asp Gly Gln Val Cys Glu Ile Cys Gly Asp Gly Val Gly Leu Thr Val
      35             40             45

Asp Gly Asp Leu Phe Val Ala Cys Asn Glu Cys Gly Phe Pro Val Cys

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50					55					60					
Arg 65	Pro	Cys	Tyr	Glu	Tyr 70	Glu	Arg	Arg	Glu	Gly 75	Ser	His	Leu	Cys	Pro 80
Gln	Cys	Lys	Thr	Arg 85	Tyr	Lys	Arg	Leu	Lys 90	Gly	Ser	Pro	Arg	Val 95	Glu
Gly	Asp	Asp	Asp 100	Glu	Glu	Asp	Val	Asp 105	Asp	Ile	Glu	His	Glu 110	Phe	Asn
Ile	Asp 115	Glu	Gln	Lys	Asn	Lys	His 120	Gly	Gln	Val	Ala	Glu 125	Ala	Met	Leu
His 130	Gly	Arg	Met	Ser	Tyr	Gly 135	Arg	Gly	Pro	Glu	Asp 140	Asp	Asp	Asn	Ser
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Ser	Ser	Leu	His 180	Lys	Arg	Val	His 185	Pro	Tyr	Pro	Val	Ser	Glu 190	Pro	Gly
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Asp 210	Asp	Trp	Lys	Leu	Gln	Gln 215	Gly	Asn	Leu	Gly	Pro 220	Glu	Pro	Asp	Glu
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Lys	Val	Pro	Ile	Ala 245	Ser	Ser	Lys	Ile	Asn 250	Pro	Tyr	Arg	Met	Val 255	Ile
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Tyr Gly Tyr Asn Gly Lys Leu Lys Pro Leu Met Arg Leu Ala Tyr Ile  
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Asn Thr Ile Val Tyr Pro Phe Thr Ser Ile Pro Leu Ile Ala Tyr Cys  
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Thr Leu Pro Ala Phe Cys Leu Leu Thr Asn Lys Phe Ile Ile Pro Glu  
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Ile Ser Asn Phe Ala Ser Met Trp Phe Ile Leu Leu Phe Val Ser Ile  
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Phe Thr Thr Ser Ile Leu Glu Leu Arg Trp Ser Gly Val Ser Ile Glu  
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Asp Trp Trp Arg Asn Glu Gln Phe Trp Val Ile Gly Gly Thr Ser Ala  
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His Leu Phe Ala Val Phe Gln Gly Leu Leu Lys Val Leu Ala Gly Ile  
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Asp Thr Asn Phe Thr Val Thr Ser Lys Ala Ser Asp Glu Asp Gly Asp  
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Phe Ala Glu Leu Tyr Val Phe Lys Trp Thr Ser Leu Leu Ile Pro Pro  
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Thr Thr Val Leu Ile Val Asn Leu Val Gly Ile Val Ala Gly Val Ser  
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Tyr Ala Ile Asn Ser Gly Tyr Gln Ser Trp Gly Pro Leu Phe Gly Lys  
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Gly Leu Leu Gly Arg Gln Asn Arg Thr Pro Thr Ile Val Ile Val Trp  
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Ser Val Leu Leu Ala Ser Ile Phe Ser Leu Leu Trp Val Arg Ile Asp  
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Asn Cys  
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 Val Ile Cys Glu Ile Trp Phe Ala Val Ser Trp Ile Met Asp Gln Phe  
 20 25 30

Pro	Lys	Trp	Tyr	Pro	Ile	Gln	Arg	Glu	Thr	Tyr	Leu	Asp	Arg	Leu	Ser	35	40	45	
Leu	Arg	Tyr	Glu	Lys	Glu	Gly	Lys	Pro	Ser	Glu	Leu	Ser	Ser	Val	Asp	50	55	60	
Val	Phe	Val	Ser	Thr	Val	Asp	Pro	Met	Lys	Glu	Pro	Pro	Leu	Ile	Thr	65	70	75	80
Ala	Asn	Thr	Val	Leu	Ser	Ile	Leu	Ala	Val	Asp	Tyr	Pro	Val	Asp	Lys	85	90	95	
Val	Ala	Cys	Tyr	Val	Ser	Asp	Asp	Gly	Ala	Ala	Met	Leu	Thr	Phe	Glu	100	105	110	
Ala	Leu	Ser	Glu	Thr	Ser	Glu	Phe	Ala	Arg	Arg	Trp	Val	Pro	Phe	Cys	115	120	125	
Lys	Lys	Tyr	Asn	Ile	Glu	Pro	Arg	Ala	Pro	Glu	Trp	Tyr	Phe	Gly	Gln	130	135	140	
Lys	Met	Asp	Tyr	Leu	Lys	Asn	Lys	Val	His	Pro	Ala	Phe	Val	Arg	Glu	145	150	155	160
Arg	Arg	Ala	Met	Lys	Arg	Asp	Tyr	Glu	Glu	Phe	Lys	Val	Arg	Ile	Asn	165	170	175	
Ser	Leu	Val	Ala	Thr	Ala	Gln	Lys	Val	Pro	Glu	Asp	Gly	Trp	Thr	Met	180	185	190	
Gln	Asp	Gly	Thr	Pro	Trp	Pro	Gly	Asn	Asn	Val	Arg	Asp	His	Pro	Gly	195	200	205	
Met	Ile	Gln	Val	Phe	Leu	Gly	Gln	Asp	Gly	Val	Arg	Asp	Val	Glu	Gly	210	215	220	
Asn	Glu	Leu	Pro	Arg	Leu	Val	Tyr	Val	Ser	Arg	Glu	Lys	Arg	Pro	Gly	225	230	235	240
Phe	Asp	His	His	Lys	Lys	Ala	Gly	Ala	Met	Asn	Ala	Leu	Val	Arg	Ala	245	250	255	
Ser	Ala	Ile	Ile	Thr	Asn	Ala	Pro	Tyr	Leu	Leu	Asn	Val	Asp	Cys	Asp	260	265	270	
His	Tyr	Ile	Asn	Asn	Ser	Lys	Ala	Leu	Arg	Glu	Ala	Met	Cys	Phe	Met	275	280	285	
Met	Asp	Pro	Gln	Leu	Gly	Lys	Lys	Val	Cys	Tyr	Val	Gln	Phe	Pro	Gln	290	295	300	
Arg	Phe	Asp	Gly	Ile	Asp	Arg	His	Asp	Arg	Tyr	Ser	Asn	Arg	Asn	Val	305	310	315	320
Val	Phe	Phe	Asp	Ile	Asn	Met	Lys	Gly	Leu	Asp	Gly	Ile	Gln	Gly	Pro	325	330	335	
Ile	Tyr	Val	Gly	Thr	Gly	Cys	Val	Phe	Arg	Arg	Tyr	Ala	Leu	Tyr	Gly	340	345	350	



Tyr	Asp	Ala	Pro	Ala	Lys	Lys	Lys	Pro	Pro	Ser	Lys	Thr	Cys	Asn	Cys	
		355					360					365				
Trp	Pro	Lys	Trp	Cys	Cys	Leu	Cys	Cys	Gly	Ser	Arg	Lys	Lys	Lys	Asn	
	370					375					380					
Ala	Asn	Ser	Lys	Lys	Glu	Lys	Lys	Arg	Lys	Val	Lys	His	Ser	Glu	Ala	
385					390					395					400	
Ser	Lys	Gln	Ile	His	Ala	Leu	Glu	Asn	Ile	Glu	Ala	Gly	Asn	Glu	Gly	
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Thr	Asn	Asn	Glu	Lys	Thr	Ser	Asn	Leu	Thr	Gln	Thr	Lys	Leu	Glu	Lys	
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Arg	Phe	Gly	Gln	Ser	Pro	Val	Phe	Val	Ala	Ser	Thr	Leu	Leu	Asp	Asp	
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Gly	Gly	Val	Pro	His	Gly	Val	Ser	Pro	Ala	Ser	Leu	Leu	Lys	Glu	Ala	
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Ile	Gln	Val	Ile	Ser	Cys	Gly	Tyr	Glu	Asp	Lys	Thr	Glu	Trp	Gly	Lys	
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Glu	Val	Gly	Trp	Ile	Tyr	Gly	Ser	Val	Thr	Glu	Asp	Ile	Leu	Thr	Gly	
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Phe	Lys	Met	His	Cys	His	Gly	Trp	Arg	Ser	Val	Tyr	Cys	Ile	Pro	Lys	
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Arg	Pro	Ala	Phe	Lys	Gly	Ser	Ala	Pro	Ile	Asn	Leu	Ser	Asp	Arg	Leu	
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His	Gln	Val	Leu	Arg	Trp	Ala	Leu	Gly	Ser	Val	Glu	Ile	Phe	Phe	Ser	
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Arg	His	Cys	Pro	Ile	Trp	Tyr	Gly	Tyr	Gly	Gly	Gly	Leu	Lys	Leu	Leu	
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Glu	Arg	Phe	Ser	Tyr	Ile	Asn	Ser	Val	Val	Tyr	Pro	Trp	Thr	Ser	Leu	
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Pro	Leu	Leu	Val	Tyr	Cys	Thr	Leu	Pro	Ala	Ile	Cys	Leu	Leu	Thr	Gly	
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Lys	Phe	Ile	Val	Pro	Glu	Ile	Ser	Asn	Tyr	Ala	Ser	Leu	Val	Phe	Met	
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Ala	Leu	Phe	Ile	Ser	Ile	Ala	Ala	Thr	Gly	Ile	Leu	Glu	Met	Gln	Trp	
	610					615					620					
Gly	Gly	Val	Ser	Ile	Asp	Asp	Trp	Trp	Arg	Asn	Glu	Gln	Phe	Trp	Val	
625					630					635					640	
Ile	Gly	Gly	Val	Ser	Ser	His	Leu	Phe	Ala	Leu	Phe	Gln	Gly	Leu	Leu	
				645					650					655		
Lys	Val	Leu	Ala	Gly	Val	Asn	Thr	Asn	Phe	Thr	Val	Thr	Ser	Lys	Ala	
			660					665					670			

Ala Asp Asp Gly Glu Phe Ser Glu Leu Tyr Ile Phe Lys Trp Thr Ser  
675 680 685

Leu Leu Ile Pro Pro Met Thr Leu Leu Ile Met Asn Ile Val Gly Val  
690 695 700

Val Val Gly Ile Ser Asp Ala Ile Asn Asn Gly Tyr Asp Ser Trp Gly  
705 710 715 720

Pro Leu Phe Gly Arg Leu Phe Phe Ala Leu Trp Val Ile Leu His Leu  
725 730 735

Tyr Pro Phe Leu Lys Gly Leu Leu Gly Lys Gln Asp Arg Met Pro Thr  
740 745 750

Ile Ile Leu Val Trp Ser Ile Leu Leu Ala Ser Ile Leu Thr Leu Met  
755 760 765

Trp Val Arg Ile Asn Pro Phe Val Ser Arg Asp Gly Pro Val Leu Glu  
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Ile Cys Gly Leu Asn Cys Asp Glu Ser  
785 790

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<212> DNA  
<213> Triticum aestivum

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<222> (9)  
<223> n = a, c g or t

<220>  
<221> unsure  
<222> (271)  
<223> n = a, c g or t

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actgtctttt ttgatattaa cttgaggggc cttgacggca ttcaaggacc agtttatgtg 180  
ggaactgggt gtgttttcaa cagaacggct atctatgggt atgagccccc aattaaggcg 240  
aagaagccag gtttcttggc atcattatgt nggggcaaga agaaggcaag caagtcaaag 300  
aaaaggagct cagataagaa aaagtcgaac aagcatgtgg acagttctgt tccagtattc 360  
aatctcgaag acatagagga ggggtgttgaa ggtgctgggt ttgatgatga gaaatcagtt 420  
ctcatgtctc aaatgagctt agagaagaga tttggccagt cagcagcatt tgttgccctc 480  
actctgatgg aatatgggtg tgttcctcag tcgtccactc cagaatctct tttgaaagaa 540  
gctatccatg tcataagttg tggctatgag gacaagtctg aatggggaac tgagattggt 600  
tggatctatg gatctgtcac agaagatatt ctaactggat tcaagatgca cgcaagaggc 660  
tggcgttcaa tctattgcat gcccaagcgc ccagctttca agggatctgc ccccatcaat 720  
ctttcagatc gtctgaatca agtgctgcgg tgggctcttg gttctgttga aattcttttc 780  
agccggcatt gcccttatg gtatggctac ggagggcgc tcaagttcct ggagagattc 840  
gcttacatca acaccacat ttaccacta acctctctcc cgcttctagt ctattgtata 900  
ttgcctgcta tctgtctgct cactggaaag ttcacatgc cagagattag caacttgcc 960  
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tggagtgggt ttggcattga cgagtgggtg aggaatgaac agttctgggt cattggagg 1080  
atctctgccc atctgtttgc cgtctttcag ggtcttctga aggtgcttgc aggtatcgac 1140  
accaacttca ctgtcacctc aaaggctaag gatgaagaag gcgactttgc tgagctctac 1200

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atgttcaagt ggacgacgct tcttatccct ccgacgacca ttttgatcat taacatgggc 1260
ggtgtcgttg ctggtacctc ctacgccatc aacagtgggt accaatcatg ggggccgctc 1320
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cttatgggca ggcaaaaccg cacaccgacg attgtcatcg tctgggctgt cctcctcgt 1440
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<210> 20
<211> 506
<212> PRT
<213> Triticum aestivum

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<220>
<221> UNSURE
<222> (88)
<223> xaa = any amino acid

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Tyr Val Gln Phe Pro Gln Arg Phe Asp Gly Ile Asp Arg Asn Asp Arg
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Tyr Ala Asn Arg Asn Thr Val Phe Phe Asp Ile Asn Leu Arg Gly Leu
      35          40          45

Asp Gly Ile Gln Gly Pro Val Tyr Val Gly Thr Gly Cys Val Phe Asn
      50          55          60

Arg Thr Ala Ile Tyr Gly Tyr Glu Pro Pro Ile Lys Ala Lys Lys Pro
      65          70          75          80

Gly Phe Leu Ala Ser Leu Cys Xaa Gly Lys Lys Lys Ala Ser Lys Ser
      85          90          95

Lys Lys Arg Ser Ser Asp Lys Lys Lys Ser Asn Lys His Val Asp Ser
      100          105          110

Ser Val Pro Val Phe Asn Leu Glu Asp Ile Glu Glu Gly Val Glu Gly
      115          120          125

Ala Gly Phe Asp Asp Glu Lys Ser Val Leu Met Ser Gln Met Ser Leu
      130          135          140

Glu Lys Arg Phe Gly Gln Ser Ala Ala Phe Val Ala Ser Thr Leu Met
      145          150          155          160

Glu Tyr Gly Gly Val Pro Gln Ser Ser Thr Pro Glu Ser Leu Leu Lys
      165          170          175

Glu Ala Ile His Val Ile Ser Cys Gly Tyr Glu Asp Lys Ser Glu Trp
      180          185          190

Gly Thr Glu Ile Gly Trp Ile Tyr Gly Ser Val Thr Glu Asp Ile Leu
      195          200          205

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Thr	Gly	Phe	Lys	Met	His	Ala	Arg	Gly	Trp	Arg	Ser	Ile	Tyr	Cys	Met
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Pro	Lys	Arg	Pro	Ala	Phe	Lys	Gly	Ser	Ala	Pro	Ile	Asn	Leu	Ser	Asp
225					230					235					240
Arg	Leu	Asn	Gln	Val	Leu	Arg	Trp	Ala	Leu	Gly	Ser	Val	Glu	Ile	Leu
				245					250					255	
Phe	Ser	Arg	His	Cys	Pro	Leu	Trp	Tyr	Gly	Tyr	Gly	Gly	Arg	Leu	Lys
			260					265					270		
Phe	Leu	Glu	Arg	Phe	Ala	Tyr	Ile	Asn	Thr	Thr	Ile	Tyr	Pro	Leu	Thr
		275					280					285			
Ser	Leu	Pro	Leu	Leu	Val	Tyr	Cys	Ile	Leu	Pro	Ala	Ile	Cys	Leu	Leu
	290					295					300				
Thr	Gly	Lys	Phe	Ile	Met	Pro	Glu	Ile	Ser	Asn	Leu	Ala	Ser	Ile	Trp
305					310					315					320
Phe	Ile	Ala	Leu	Phe	Leu	Ser	Ile	Phe	Ala	Thr	Gly	Ile	Leu	Glu	Met
				325					330					335	
Arg	Trp	Ser	Gly	Val	Gly	Ile	Asp	Glu	Trp	Trp	Arg	Asn	Glu	Gln	Phe
			340					345					350		
Trp	Val	Ile	Gly	Gly	Ile	Ser	Ala	His	Leu	Phe	Ala	Val	Phe	Gln	Gly
		355					360						365		
Leu	Leu	Lys	Val	Leu	Ala	Gly	Ile	Asp	Thr	Asn	Phe	Thr	Val	Thr	Ser
	370					375					380				
Lys	Ala	Asn	Asp	Glu	Glu	Gly	Asp	Phe	Ala	Glu	Leu	Tyr	Met	Phe	Lys
385					390					395					400
Trp	Thr	Thr	Leu	Leu	Ile	Pro	Pro	Thr	Thr	Ile	Leu	Ile	Ile	Asn	Met
				405					410					415	
Val	Gly	Val	Val	Ala	Gly	Thr	Ser	Tyr	Ala	Ile	Asn	Ser	Gly	Tyr	Gln
			420					425					430		
Ser	Trp	Gly	Pro	Leu	Phe	Gly	Lys	Leu	Phe	Phe	Ala	Phe	Trp	Val	Ile
		435					440					445			
Val	His	Leu	Tyr	Pro	Phe	Leu	Lys	Gly	Leu	Met	Gly	Arg	Gln	Asn	Arg
	450					455					460				
Thr	Pro	Thr	Ile	Val	Ile	Val	Trp	Ala	Val	Leu	Leu	Ala	Ser	Ile	Phe
465					470					475					480
Ser	Leu	Leu	Trp	Val	Arg	Val	Asp	Pro	Phe	Thr	Thr	Arg	Leu	Ala	Gly
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Pro	Asn	Ile	Gln	Thr	Cys	Gly	Ile	Asn	Cys						
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<212> DNA  
 <213> Triticum aestivum

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 ttctgcagat cccaaccttc cagtgcgaacc gagatccatg gacccgtcca aggatctggc 180  
 cgcctacgga tatggcagcg tggcctggaa ggagagaatg gagggctgga agcagaagca 240  
 ggagcgccctg cagcatgtca ggagcgaggg tggcggtgat tgggatggcg acgatgcaga 300  
 tctgccacta atggatgaag ctaggcagcc attgtccaga aaagtcctta tatcatcaag 360  
 ccgaattaat ccctacagga tgattatcgt tatccggttg gtgggttttg gtttcttctt 420  
 ccactaccga gtgatgcac cggcgaaaga tgcatttgca ttgtggctca tatctgtaat 480  
 ctgtgaaatc tgggtttgca tgtcctgtat tcttgatcag ttcccaaagt ggtttccaat 540  
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 tcagcttgct ccaatcgact tctttgtcag tacggttgat cccacaaagg aacctccctt 660  
 ggtcacagcg aacactgtcc tttccatcct ttctgtggat tatccggttg agaaggcttc 720  
 ctgctatgtt tctgatgatg gtgctgcaat gcttacgttt gaagcattgt ctgaaacatc 780  
 tgaatttgca aagaaatggg ttcctttcag caaaaagttt aatatcgagc ctcgctgctcc 840  
 tgagtggtag ttccaacaga agatagacta cctgaaagac aagggttgctg cttcatttgt 900  
 tagggagagg agggcgatga agagagaata cgaggaattc aaggtaagga tcaatgcctt 960  
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 gcctggaaa 1029

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 <211> 340  
 <212> PRT  
 <213> Triticum aestivum

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 35 40 45  
 Arg Ser Met Asp Pro Ser Lys Asp Leu Ala Ala Tyr Gly Tyr Gly Ser  
 50 55 60  
 Val Ala Trp Lys Glu Arg Met Glu Gly Trp Lys Gln Lys Gln Glu Arg  
 65 70 75 80  
 Leu Gln His Val Arg Ser Glu Gly Gly Gly Asp Trp Asp Gly Asp Asp  
 85 90 95  
 Ala Asp Leu Pro Leu Met Asp Glu Ala Arg Gln Pro Leu Ser Arg Lys  
 100 105 110  
 Val Pro Ile Ser Ser Ser Arg Ile Asn Pro Tyr Arg Met Ile Ile Val  
 115 120 125  
 Ile Arg Leu Val Val Leu Gly Phe Phe Phe His Tyr Arg Val Met His  
 130 135 140  
 Pro Ala Lys Asp Ala Phe Ala Leu Trp Leu Ile Ser Val Ile Cys Glu  
 145 150 155 160  
 Ile Trp Phe Ala Met Ser Cys Ile Leu Asp Gln Phe Pro Lys Trp Phe

165								170				175			
Pro	Ile	Glu	Arg	Glu	Thr	Tyr	Leu	Asp	Arg	Leu	Ser	Leu	Arg	Phe	Asp
			180					185					190		
Lys	Glu	Gly	Gln	Pro	Ser	Gln	Leu	Ala	Pro	Ile	Asp	Phe	Phe	Val	Ser
		195					200					205			
Thr	Val	Asp	Pro	Thr	Lys	Glu	Pro	Pro	Leu	Val	Thr	Ala	Asn	Thr	Val
	210					215					220				
Leu	Ser	Ile	Leu	Ser	Val	Asp	Tyr	Pro	Val	Glu	Lys	Val	Ser	Cys	Tyr
225					230					235					240
Val	Ser	Asp	Asp	Gly	Ala	Ala	Met	Leu	Thr	Phe	Glu	Ala	Leu	Ser	Glu
				245					250					255	
Thr	Ser	Glu	Phe	Ala	Lys	Lys	Trp	Val	Pro	Phe	Ser	Lys	Lys	Phe	Asn
			260					265					270		
Ile	Glu	Pro	Arg	Ala	Pro	Glu	Trp	Tyr	Phe	Gln	Gln	Lys	Ile	Asp	Tyr
		275					280					285			
Leu	Lys	Asp	Lys	Val	Ala	Ala	Ser	Phe	Val	Arg	Glu	Arg	Arg	Ala	Met
	290					295					300				
Lys	Arg	Glu	Tyr	Glu	Glu	Phe	Lys	Val	Arg	Ile	Asn	Ala	Leu	Val	Ala
305					310					315					320
Lys	Ala	Gln	Lys	Val	Pro	Glu	Glu	Gly	Trp	Thr	Met	Gln	Asp	Gly	Ser
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 <211> 1081  
 <212> PRT  
 <213> Arabidopsis thaliana

<400> 23															
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Leu	Val	Arg	Ile	Arg	His	Glu	Ser	Asp	Gly	Gly	Thr	Lys	Pro	Leu	Lys
			20					25					30		
Asn	Met	Asn	Gly	Gln	Ile	Cys	Gln	Ile	Cys	Gly	Asp	Asp	Val	Gly	Leu
		35					40					45			
Ala	Glu	Thr	Gly	Asp	Val	Phe	Val	Ala	Cys	Asn	Glu	Cys	Ala	Phe	Pro
	50					55					60				
Val	Cys	Arg	Pro	Cys	Tyr	Glu	Tyr	Glu	Arg	Lys	Asp	Gly	Thr	Gln	Cys
65					70					75					80
Cys	Pro	Gln	Cys	Lys	Thr	Arg	Phe	Arg	Arg	His	Arg	Gly	Ser	Pro	Arg
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Val	Glu	Gly	Asp	Glu	Asp	Glu	Asp	Asp	Val	Asp	Asp	Ile	Glu	Asn	Glu

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Phe	Asn	Tyr	Ala	Gln	Gly	Ala	Asn	Lys	Ala	Arg	His	Gln	Arg	His	Gly		
	115					120						125					
Glu	Glu	Phe	Ser	Ser	Ser	Ser	Arg	His	Glu	Ser	Gln	Pro	Ile	Pro	Leu		
	130					135						140					
Leu	Thr	His	Gly	His	Thr	Val	Ser	Gly	Glu	Ile	Arg	Thr	Pro	Asp	Thr		
145					150					155					160		
Gln	Ser	Val	Arg	Thr	Thr	Ser	Gly	Pro	Leu	Gly	Pro	Ser	Asp	Arg	Asn		
				165					170					175			
Ala	Ile	Ser	Ser	Pro	Tyr	Ile	Asp	Pro	Arg	Gln	Pro	Val	Pro	Val	Arg		
			180					185					190				
Ile	Val	Asp	Pro	Ser	Lys	Asp	Leu	Asn	Ser	Tyr	Gly	Leu	Gly	Asn	Val		
		195				200						205					
Asp	Trp	Lys	Glu	Arg	Val	Glu	Gly	Trp	Lys	Leu	Lys	Gln	Glu	Lys	Asn		
	210					215					220						
Met	Leu	Gln	Met	Thr	Gly	Lys	Tyr	His	Glu	Gly	Lys	Gly	Gly	Glu	Ile		
225					230					235					240		
Glu	Gly	Thr	Gly	Ser	Asn	Gly	Glu	Glu	Leu	Gln	Met	Ala	Asp	Asp	Thr		
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Arg	Leu	Pro	Met	Ser	Arg	Val	Val	Pro	Ile	Pro	Ser	Ser	Arg	Leu	Thr		
			260					265					270				
Pro	Tyr	Arg	Val	Val	Ile	Ile	Leu	Arg	Leu	Ile	Ile	Leu	Cys	Phe	Phe		
		275				280						285					
Leu	Gln	Tyr	Arg	Thr	Thr	His	Pro	Val	Lys	Asn	Ala	Tyr	Pro	Leu	Trp		
	290					295					300						
Leu	Thr	Ser	Val	Ile	Cys	Glu	Ile	Trp	Phe	Ala	Phe	Ser	Trp	Leu	Leu		
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Asp	Gln	Phe	Pro	Lys	Trp	Tyr	Pro	Ile	Asn	Arg	Glu	Thr	Tyr	Leu	Asp		
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Pro	Val	Asp	Val	Phe	Val	Ser	Thr	Val	Asp	Pro	Leu	Lys	Glu	Pro	Pro		
		355					360					365					
Leu	Val	Thr	Ala	Asn	Thr	Val	Leu	Ser	Ile	Leu	Ser	Val	Asp	Tyr	Pro		
	370					375					380						
Val	Asp	Lys	Val	Ala	Cys	Tyr	Val	Ser	Asp	Asp	Gly	Ser	Ala	Met	Leu		
385					390					395					400		
Thr	Phe	Glu	Ser	Leu	Ser	Glu	Thr	Ala	Glu	Phe	Ala	Lys	Lys	Trp	Val		
				405					410					415			
Pro	Phe	Cys	Lys	Lys	Phe	Asn	Ile	Glu	Pro	Arg	Ala	Pro	Glu	Phe	Tyr		



420							425					430			
Phe	Ala	Gln	Lys	Ile	Asp	Tyr	Leu	Lys	Asp	Lys	Ile	Gln	Pro	Ser	Phe
		435					440					445			
Val	Lys	Glu	Arg	Arg	Ala	Met	Lys	Arg	Glu	Tyr	Glu	Glu	Phe	Lys	Val
	450					455					460				
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 Gly Glu Pro Phe Val Ala Cys Asn Glu Cys Ala Phe Pro Val Cys Arg  
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 Pro Cys Tyr Glu Tyr Glu Arg Arg Glu Gly Asn Gln Ala Cys Pro Gln  
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 Ala His Arg Arg Leu Met Val Pro Gln Lys Asp Leu Ala Val Tyr Gly  
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 Gln Asn Glu Lys Leu Gln Val Val Arg His Glu Gly Asp Pro Asp Phe  
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 Pro Leu Ser Met Lys Ile Pro Ile Lys Ser Ser Lys Ile Asn Pro Tyr

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Ser	Val	Ile	Cys	Glu	Ile	Trp	Phe	Ala	Val	Ser	Trp	Val	Leu	Asp	Gln		
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Val	Val	Phe	Phe	Asp	Ile	Asn	Met	Lys	Gly	Leu	Asp	Gly	Leu	Gln	Gly					
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Ser	Lys	Gln	Ile	His	Ala	Leu	Glu	Asn	Ile	Glu	Glu	Gly	Arg	Gly	His					
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Glu	Asn	Gly	Gly	Met	Ala	Arg	Asn	Ala	Ser	Pro	Ala	Cys	Leu	Leu	Lys					
			740				745						750							
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Pro	Lys	Leu	Ala	Ala	Phe	Lys	Gly	Ser	Ala	Pro	Ile	Asn	Leu	Ser	Asp					
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		835					840					845								
Trp	Leu	Glu	Arg	Leu	Ser	Tyr	Ile	Asn	Ser	Val	Val	Tyr	Pro	Trp	Thr					
	850					855					860									
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